

Please type a plus sign (+) inside this box → ☒

PTO/SB/08A (08-00)  
Approved for use through 10/31/2002. OMB 0651-0031  
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 6

Complete if Known

Application Number 09/677,374  
Filing Date 15 September 2000  
First Named Inventor KUZYK, Michael A.  
Group Art Unit 1642  
Examiner Name  
Attorney Docket Number 1115-005/dhh

RECEIVED

AUG 29 2001

TECH CENTER 1600/2900

### U.S. PATENT DOCUMENTS

Examiner Initials <sup>1</sup>	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
	AA					
	AB					
	AB					
	AC					
	AD					
	AE					
	AF					
	AG					
	AH					
	AI					
	AJ					
	AK					
	AL					
	AM					
	AN					
	AO					
	AP					
	AO					
	AR					
	AS					

### FOREIGN PATENT DOCUMENTS

Examiner Initials <sup>1</sup>	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
	BA							
	BB							
	BC							
	BD							
	BE							
	BF							
	BG							
	BH							
	BI							
	BJ							

Examiner  
Signature

*Vanessa Haddad*

Date  
Considered

02/13/03

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → ☒

PTO/SB/08B (08-00)  
Approved for use through 10/31/2002. OMB 0651-0031  
U. S. Patent and Trademark Office: U. S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 2 of 6

Complete if Known

Application Number 09/677,374  
Filing Date 15 September 2000  
First Named Inventor KUZYK, Michael A.  
Group Art Unit 1642  
Examiner Name  
Attorney Docket Number 1115-005/dhh

RECEIVED

AUG 29 2001

TECH CENTER 1600/2900

### OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
JA	C A	ANACKER, ROBERT L. et al.; Characterization of Monoclonal Antibodies Protecting Mice against Rickettsia*; The Jnl of Infectious Diseases, Vol. 151, No. 6, June 1985, pp 1052-1060, Hamilton, Montana	<input type="checkbox"/>
	C B	ANDERSON, BURT, Molecular Rickettsiology, A Short History, Rickettsial Infection and Immunity, edited by Anderson et al., [1997], pages 1-13, Plenum Press, New York	<input type="checkbox"/>
	C C	ANDERSON, BURT E. et al.; A Protective Protein Antigen of Rickettsia rickettsii Has Tandemly*, Near-Identical Seq.; Infection and Immunity, Sept. 1990, p. 2760-2769, Vol. 58, No. 9; Hamilton, Montana	<input type="checkbox"/>
	C D	ANDERSON BURT E. et al.; Sequence Analysis of the 17-Kilodalton-Antigen Gene from Rickettsia rickettsii; Journal of Bacteriology, June 1987, p. 2385-2390, Vol. 169, No. 6, Atlanta, Georgia	<input type="checkbox"/>
	C E	AZAD, ABDU F. et al.; Flea-borne Rickettsioses: Ecologic Considerations; Emerging Infectious Diseases, Vol. 3, No. 3, July-September 1997, Maryland, USA	<input type="checkbox"/>
	C F	BIXLER, Jr., GARVIN S. et al.; The Cellular Basis of the Immune Response to Conjugate Vaccines, Contrib. Microbio. Immunol. Basel, Karger, 1989, Vol. 10, pp. 18-47; Rochester, NY, USA	<input type="checkbox"/>
	C G	BRAVO S. et al., Coho Salmon Syndrome in Chile; FHS/AFS Newsletter [1989] 17(2):3, Puerto Montt, Chile	<input type="checkbox"/>
	C H	BROCKLEBANK, JOHN R. et al.; Rickettsial Septicemia in Farmed Atlantic and Chinook Salmon in British Columbia: Clinical Presentation*; Can Vet J. Vol. 34, Dec. 1993 pp. 745-748	<input type="checkbox"/>
	CI	CARL, M. et al.; Characterization of the Gene Encoding the Protective*: Presence of a Truncated Identical Homolog*; Proc. Natl. Acad. Sci. USA, Vol. 87, pp. 8237-8241, Nov. 1990 Micorb., Bethesda, Maryland	<input type="checkbox"/>
	CJ	CHING, WEI-MEI et al.; Mapping of Monoclonal Antibody Binding Sites on CNBr Fragments of the S-Layer Protein Antigens of Rickettsia*; Molecular Immunology, Vol. 29, No. 1, pp. 95-105, 1992, U.K.	<input type="checkbox"/>
	C K	CHING, W.M. et al., Identification and Characterization of Epitopes on the 120-Kilodalton Surface Protein*; Infection and Immunity, 1996, Vol. 64, No. 4, pp 1413-1419, Bethesda, Maryland	<input type="checkbox"/>

Examiner  
Signature

Vanessa Ford

Date  
Considered

2/13/03

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box →

+

PTO/SB/08B (08-00)  
Approved for use through 10/31/2002. OMB 0651-0031  
U. S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 3 of 6

Compleat if Known

Application Number 09/677.374  
Filing Date 15 September 2000  
First Named Inventor KUZYK, Michael A.  
Group Art Unit 1642  
Examiner Name  
Attorney Docket Number 1115-005/ddh

RECEIVED

AUG 29 2001

TECH CENTER 1600/2900

## OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

Examiner Initials <sup>1</sup>	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
MS	C L	CORPET, FLORENCE; Multiple Sequence Alignment with Hierarchical Clustering; Volume 16, Number 22, 1988, pp. 10881-10890, Tolosan, France	
	C M	CVITANICH, J.D. et al.; The Isolation of a Rickettsia-like Organism Causing Disease and Mortality in Chilean Salmonids and its Confirmation*; Jml of Fish Diseases 1991, 14, 121-145; Springfield, Oregon	
	C N	DAVIS, MICHAEL J. et al.; Rickettsial Relative Associated with Papaya Bunchy Top Disease; Current Microbiology An International Journal, Vol. 36 (1998), pp. 80-84, New York	
	C O	DEMOTZ, STEPHANE et al.; Delineation of Several DR-Restricted Tetanus Toxin T Cell Epitopes, The Journal of Immunology, Vol. 142, 394-402, No. 2, January 15, 1989, USA	
	C P	DRANCOURT, M. et al.; Taxonomic Position of the Rickettsiae: Current Knowledge; FEMS Microbiology Reviews 13 (1994) 13-24, Marseille, France	
	C Q	FRYER, J.L. et al.; Isolation of a Rickettsiales-Like Organism from Diseased Coho Salmon (Oncorhynchus kisutch) in Chile*; Fish Pathology 25(2), 107-114, 1990. 6, Corvallis, Oregon	
	C R	FRYER, J.L. et al.; Piscirickettsia Salmonis Gen. Nov., Sp. Nov., the Causative Agent*; International Journal of Systematic Bacteriology, Jan. 1992, p. 120 -126, Vol. 42, No. 1, Newport, Oregon	
	C S	FRYER, JOHN L. et al.; The Rickettsia: an Emerging Group of Pathogens in Fish; Emerging Infectious Diseases, Vol. 3, No. 2, (1997) pp. 137-144, Corvallis, Oregon	
	C T	HAHN, MYONG-JOON et al.; Expression and Purification of the Crystalline Surface Layer Protein of Rickettsia Typhi; Microbol. Immunol., 40(3) 233-236, 1996, Chunchon, South Korea	
	C U	HATHAWAY, L.J. et al.; Induction of Systemic Immune Responses to Measles Virus Synthetic Peptides Administered Intranasally; Elsevier Science Ltd., (1995) Great Britain	
	C V	HICKMAN, CAROLE J. et al.; Molecular Cloning and Sequence Analysis of a Rickettsia Tsutsugamushi 22 kDa Antigen Containing B- and T-cell Epitopes; Microbial Pathogenesis 1991: 11: 19-31; Maryland, USA	

Examiner Signature

Vanessa R. Ford

Date Considered

02/13/03

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box →

+

PTO/SB/08B (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U. S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO

# **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 4 of 6

## **Complete if Known**

Application Number 09/677,374  
Filing Date 15 September 2000  
First Named Inventor KUZYK, Michael A.  
Group Art Unit 1642  
Examiner Name  
Attorney Docket Number 1115-005/ddh

RECEIVED

AUG 29 2001

TECH CENTER 1600/2900

## **OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS**

Examiner Initials <sup>2</sup>	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
W	C W	HIGGINS, JAMES A. et al.; Reverse Transcriptase PCR Amplification of Rickettsia typhi from Infected Mammalian Cells*; Jnl of Clinical Microb., June 1998, p. 1793-1794, Vol. 36, No. 6, Baltimore, Maryland	
	C X	KJERRULF, MARTIN et al.; Tandem Repeats of T Helper Epitopes Enhance Immunogenicity of Fusion Proteins by Promoting Processing*; Molecular Immun., Vo. 34, No. 89, pp. 599-608, 1997, UK	
	C Y	LANNAN, C.N. et. al.; Piscirickettsia Salmonis, a Major Pathogen of Salmonid Fish in Chile*; Fisheries Research 17 (1993) 115-121, Corvallis, Oregon	
	C Z	LI, HAN et al.; rOmpA is a Critical Protein for the Adhesion of Rickettsia rickettsii to Host Cells; Microbial Pathogenesis 1998; 24: 289- 298; Academic Press Limited, Galveston, Texas	
	D A	MALLAVIA, L.P., Genetics of Rickettsiae; European Journal of Epidemiology, May 1991, p. 213-221, Vol. 7, No. 3; Pullman, Washington	
	D B	MCDONALD, GREGORY A. et al.; Cloned Gene of Rickettsia rickettsii Surface Antigen: Candidate Vaccine for Rocky Mountain*; Science, Vol. 235, 2 January 1987, pp. 83-85, Hamilton, Montana	
	D C	MESSICK, JOANNE B. et al.; Inhibition of Binding, Entry, or Intracellular Proliferation of*, Immunoglobulin G, or Fab*; Infect. and Imm., Aug. 1994, p. 3156-3161, Vol. 62, No. 8; Columbia, Ohio	
	D E	MUSOKE, A.J. et al.; Prospects for Subunit Vaccines Against Tick-Borne Diseases; Br. vet. J. (1996), 152, 621-639, Pullman, USA	
	D F /	O'HERN, PATRICIA A.; Colinear Synthesis of an Antigen-Specific B-Cell Epitope with a 'Promiscuous' Tetanus Toxin T-cell Epitope: a Synthetic Peptide*; Vaccine 1997 Volume 15, Number 16, UK	
	D G	PANG, HUILING et al.; Analysis of the Peptidoglycan of Rickettsia prowazekii; Journal of Bacteriology, Feb. 1994, p. 923-926, Vol. 176, No. 3, Mobile, Alabama	
	D H	PANINA-BORDIGNON, PAOLA, Universally immunogenic T cell epitopes: promiscuous binding to human MHC class II and promiscuous recognition by T cells*; Eur. J. Immunol. [1989] 19: 2237-2242; Switzerland	

Examiner Signature

Vanessa Ford

Date

Considered

02/13/03

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box →

+

PTO/SB/08B (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U. S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO

# **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 5 of 6

**C mplete if Known**

Application Number 09/677.374  
Filing Date 15 September 2000  
First Named Inventor KUZYK, Michael A.  
Group Art Unit 1642  
Examiner Name  
Attorney Docket Number 1115-002/ddh

**RECEIVED**

AUG 29 2001

TECH CENTER 1600/2900

## **OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
MA	D I	PARTIDOS, CHARALAMBOS et al.; The Influence of Orientation and Number of Copies of T and B Cell Epitopes on the Specificity and Affinity*; Eur. J. Immunol., 1992, 22: 2675-2680; London, UK	
	D J	PARTIDOS, CHARALAMBOS D. et al.; Prediction and Identification of a T Cell Epitope in the Fusion Protein of Measles Virus Immunodominant in Mice*; Jml of General Vir. (1990), 71, pp. 2099-2105, UK	
	D K	PILLAI, SUBRAMONIA et al.; Immunogenicity of Genetically Engineered Glutathione S-Transferase Fushion Proteins* Toxin; Infect. and Imm., Apr. 1995, p. 1535-1540, Vol. 63, No. 4, West Henrietta, NY	
	D L	RACHEK, LYUDMILA I. et al.; Transformation of Rickettsia prowazekii to Rifampin Resistance; Journal of Bacteriology, Apr. 1998, p. 2118-2124, Vol. 180, No. 8; Mobile, Alabama	
	D M	RIKIHISA, YASUKO; The Tribe Ehrlichiae and Ehrlichial Diseases; Clinical Microbiology Review, July 1991, p. 286-308, Vol. 4, No. 3, Columbus, Ohio	
	D N	RODGER, H.D. et al.; Observation of a Rickettsia-like Organism in Atlantic Salmon, Salmo salar L., in Ireland; Journal of Fish Diseases 1993, 16, pp. 361-369, Stirling, Scotland	
	D O	SEONG, S.Y. et al.; Induction of Neutralizing Antibody in Mice by Immunization with Recombinant 56 kDa Protein of Orienta Tsutsugamushi; Vaccine, Vol. 15, No. 16, pp.1741-1747, 1997	
	D P	STENOS, JOHN et al.; Rickettsia Honei sp. nov., The Aetiological Agent of Flinders Island Spotted Fever in Australia; International Journal of Systematic Bacteriology (1998), 48, 1399-1404, Great Britain	
	D Q	TROYER, JILL MICHELLE et al.; Green Fluorescent Protein as a Market in Rickettsia typhi Transformation; Infection and Immunity, July 1999, p. 3308-3311, Vol. 67, No. 7, Baltimore, Maryland	
	D R	SUMNER, JOHN W. et al.; Protection of Guinea-pigs from Experimental Rocky Mountain Spotted Fever by Immunization iwth Baculovirus-expressed Rickettsia Rickettsii rOmpA Protein; Vaccine, Vol. 13, No. 1, pp. 29-35, 1995, Atlanta, Georgia	
	D S	VALMORI, DANILA et al.; Use of Human Universally Antigenic Tetanus Toxin T Cell Epitopes as Carriers for Human Vaccination; The Journal of Immunology, Vol. 149, 717-721, NO. 2 July 15, 1992, USA	

Examiner Signature

Vanessa Ford

Date

Considered

02/13/03

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



Please type a plus sign (+) inside this box →

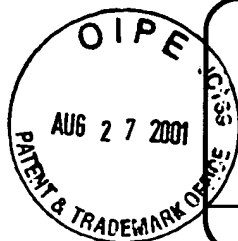


PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.



Substitute for form 1449A/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 4

### Complete if Known

Application Number 09/677,374  
Filing Date 15 September 2000  
First Named Inventor KUZYK, Michael A.  
Group Art Unit 1642  
Examiner Name  
Attorney Docket Number 1115-005/ddh

RECEIVED

AUG 29 2001

TECH CENTER 1600/290

### U.S. PATENT DOCUMENTS

Examiner Initials <sup>1</sup>	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
	AA					
	AB					
	AB					
	AC					
	AD					
	AE					
	AF					
	AG					
	AH					
	AI					
	AJ					
	AK					
	AL					
	AM					
	AN					
	AO					
	AP					
	AO					
	AR					
	AS					

### FOREIGN PATENT DOCUMENTS

Examiner Initials <sup>1</sup>	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
	BA							
	BB							
	BC							
	BD							
	BE							
	BF							
	BG							
	BH							
	BI							
	BJ							

Examiner  
Signature

*Vanessa Ford*

Date  
Considered

02/13/03

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box →

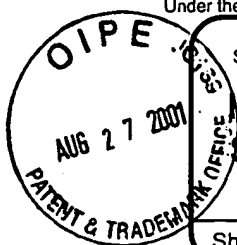
X

PTO/SB/08B (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U. S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.



Substitute for form 1449B/PTO

# **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 2 of 4

Compl t if Kn wn

Application Number 09/677.374  
Filing Date 15 September 2000  
First Named Inventor KUZYK, Michael A.  
Group Art Unit 1642  
Examiner Name  
Attorney Docket Number 1115-005/ddh

RECEIVED

AUG 29 2001

TECH CENTER 1600/290

## **OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS**

Examiner Initials <sup>1</sup>	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
ms	C A	ALTSCHUL, STEPHEN F. et al.; Basic Local Alignment Search Tool; Journal of Molecular Biology (1990) 215, 403-410, Academic Press Limited, Bethesda, Maryland	<input type="checkbox"/>
	C B	ALTSCHUL, STEPHEN F.; Gapped Blast and PSI-Blast: a New Generation of Protein Database Search Programs; Nucleic Acids Research, 1997, Vol. 25, No. 17, pp. 3389-3402, USA	<input type="checkbox"/>
	C C	KUZYK, MICHAEL A. et al.; Antigenic Characterization of the Salmonid Pathogen Piscirickettsia salmonis; Infection and Immunity, Dec. 1996, p. 5205-5210, Vol. 64, No. 12, British Columbia, Canada	<input type="checkbox"/>
	C D	LEWIS, JANINA P. et al.; IS195, an Insertion Sequence-Like Element Associated with Protease Genes in Prophylomonas*; Infection and Immunity, July 1998, p. 3035-3042, Vol. 66, No. 7, Richmond, Virginia	<input type="checkbox"/>
	C E	MARSHALL, SERGIO et al.; Minimally Invasive Detection of Pisirickettsia salmonis in Cultivated*; Applied and Environmental Microbiology, Aug. 1998, p. 3066-3069, Vol. 64, No. 8, San Francisco, CA	<input type="checkbox"/>
	C F	NEEDLEMAN, SAUL B. et al.; A General Method Applicable to the Search for Similarities in the Amino Acid Sequence of Two Proteins; Journal of Molecular Biology (1970) 48, 443-453, Chicago, Illinois	<input type="checkbox"/>
	C G	HUANG, XIAOQIU et al.; Parallelization of a Local Similarity Algorithm; Cabios, Vol. 8, No. 2, 1992, pp. 155-165, University Park, PA	<input type="checkbox"/>
	C H	JAMESON, B.A. et al.; The Antigenic Index: a Novel Algorithm for Predicting Antigen Determinants; Cabios, Vol. No. 4. No. 1, 1988, pp. 181-186, Pasadena, CA	<input type="checkbox"/>
	CI	PEARSON, WILLIAM R. et al.; Improved Tools for Biological Sequence Comparison, Proc. Natl. Acad. Sci., Vol. 85, pp. 2444-2448, April 1988, Bethesda, Maryland	<input type="checkbox"/>
	CJ	OLIVIER, G. et al.; Immunity to Aeromonas Salmonicida in Coho Salmon (Oncorhynchus Kisutch) Induced by Modified Freund's Complete Adjuvant: Its Non-Specific Nature and the Probable Role of Macrophages in the Phenomenon; Developmental and Comparative Immunology, Vol. 9, pp. 419-432, 1985, USA	<input type="checkbox"/>
	C K	PEARSON, WILLIAM R.; Using the FASTA Program to Search Protein and DNA Sequence Databases; Methods in Molecular Biology, Vol. 24, Computer Analysis of Sequence Data, Part I, pp. 307-331, Totowa, NJ	<input type="checkbox"/>

Examiner Signature

Janessa Ford

Date Considered

02/13/03

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



Please type a plus sign (+) inside this box → ☒

PTO/SB/08B (08-00)  
Approved for use through 10/31/2002. OMB 0651-0031  
U. S. Patent and Trademark Office: U. S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 3 of 4

### Complete if Known

Application Number 09/677.374  
Filing Date 15 September 2000  
First Named Inventor KUZYK, Michael A.  
Group Art Unit 1642  
Examiner Name  
Attorney Docket Number 1115-005/ddh

RECEIVED  
AUG 29 2001  
TECH CENTER 1600/2900

### OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

Examiner Initials <sup>2</sup>	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
MS	C L	PEARSON, WILLIAM R.; Empirical Statistical Estimates for Sequence Similarity Searches; Journal of Molecular Biology (1998) 276, 71-84, Academic Press Limited, Charlottesville, VA	<input type="checkbox"/>
	C M	TABOR, STANLEY et al.; A Bacteriophage T7 RNA Polymerase/Promoter System for Controlled Exclusive Expression of Specific Genes; Proc. Natl. Acad. Sci., Vol. 82, pp. 1074-1078, Feb. 1985, USA	<input type="checkbox"/>
	C N	TAMURA, AKIRA et al.; Purification of Rickettsia Tsutsugamushi by Percoll Density Gradient Centrifugation; Microbiol. Immunol., Vol. 26 (4), 321-328, 1982, Niigata, Niigata	<input type="checkbox"/>
	C O	WEISS, E. et al.; Separation of Viable Rickettsia Typhi from Yolk Sac and L Cell Host Components by Renografin*; Applied Microbiology, Sept. 1975, p. 456-463, Vol. 30, No. 3, Bethesda, Maryland	<input type="checkbox"/>
	C P	SMITH, TEMPLE F. et al.; Comparison of Biosequences; Advances in Applied Mathematics 2, 482-489 (1981), USA	<input type="checkbox"/>
	C Q	HO, PAUL C. et al.; Identification of Two Promiscuous T Cell Epitopes from Tetanus Toxin*; Eur. J. Immunol. 1990, 20: 477-483, Sydney, Australia	<input type="checkbox"/>
	C R	FRYAUFF, DAVID J. et al.; Lymphocyte Response to Tetanus Toxin T-cell Epitopes; Effects of Tetanus Vaccination and Concurrent Malaria Prophylaxis; Vaccine 17 (1999) pp. 59-63	<input type="checkbox"/>
	C S	REECE, Jeanette C. et al.; Mapping the Major Human T Helper Epitopes of Tetanus Toxin, The Emerging Picture; The Journal of Immunology, Vol 151, 6175-6184, No. 11, December 1, 1993, Victoria, Australia	<input type="checkbox"/>
	C T	PARTULA, SYLVIE, Surface Markers of Fish T-Cells; Fish & Shellfish Immunology (1999) 9, 241-257; 1999 Academic Press, Uppsala, Sweden	<input type="checkbox"/>
	C U	STET, RENE J.M. et al.; Inference of Structure and Function of Fish Major Histocompatibility Complex (MHC) Molecules from Expressed Genes; Fish and Shellfish Immunology (1996) 6, 305-318, 1996 Academic Press Limited, The Netherlands	<input type="checkbox"/>
	C V	NAKANISHI, T. et al.; Specific Cell-Mediated Immunity in Fish; Veterinary Immunology and Immunopathology 72 (1999) 101-109, Japan	<input type="checkbox"/>

Examiner  
Signature

Vanessa Ford

Date  
Considered

02/13/03

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → ☒

PTO/SB/08B (08-00)  
Approved for use through 10/31/2002. OMB 0651-0031  
U. S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 4 of 4

### Complete if Known

Application Number 09/677,374  
Filing Date 15 September 2000  
First Named Inventor KUZYK, Michael A.  
Group Art Unit 1642  
Examiner Name  
Attorney Docket Number 1115-005/ddh

### OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
JS	C W	KOPPANG, E.O. et al.; Expression of Mhc Class I mRNA in Tissues From Vaccinated and Non-Vaccinated*; Fish & Shellfish Immunology (1998) 8, 577-587; Article NO. Fi980164, Norway	<input type="checkbox"/>
	C X	GRIMHOLT, U. et al.; The Major Histocompatibility Complex in Fish; Rev. Sci. Tech. Off. Int. Epiz., 1998, 17(1), 121-127, Norway	<input type="checkbox"/>
	C Y	ANDERSON, BURT E. et al.; Comparative Sequence Analysis of a Genus-Common Rickettsial Antigen Gene; Journal of Bacteriology, Sept. 1989, p. 5199-5201; Atlanta, Georgia	<input type="checkbox"/>
	C Z	ANDERSON, B.E. et al.; Expression of the Gene Encoding the 17-Kilodalton Antigen from Rickettsia rickettsii: Transcription*; Jnl of Bacteriology, Oct. 1988, p. 4493-4500, Vol. 170, No. 10, Atlanta, Georgia	<input type="checkbox"/>
	D A	SECOMBES, CHRIS; Non-Specific Defence Mechanisms of Fish; Bull Eur. Ass. Fish Pathol. 19(6), 296, 1999; Aberdeen, UK	<input type="checkbox"/>
	D B	VALLEJO, ABBE N. et al.; Antigen Processing and Presentation in Teleost Immune Responses; Annual Rev. of Fish Diseases, pp. 73-89, 1992; Jackson, Mississippi	<input type="checkbox"/>
	D C	WINTON, J.R.; Molecular Approaches to Fish Vaccines; J. Appl. Ichthyol. 14 (1998), 153-158; Berlin, Germany	<input type="checkbox"/>
	D E	CHEN, MARTIN F. et al.; IFAT Positive Bacteria in Rectal Swabs from Asymptomatic Channel Catfish Suggest ESC Carrier State; FHS/AFS Newsletter, p. 3, Vol. 17(2) Davis, CA	<input type="checkbox"/>
	D F	VAN BINNENDIJK, ROBERT S. et al; Human HLA Class I - HLA Class II-Restricted Cloned Cytotoxic T Lymphocytes*, Jrl of Virology, Apr. 1993, p. 2276-2284, Vol.67, No. 4., Bilthoven, The Netherlands	<input type="checkbox"/>
	D G	ARKOOSH, MARY R. et al.; Development of Immunological Memory in Rainbow Trout (Oncorhynchus mykiss). I. An Immunochemical and Cellular Analysis of the B Cell Response; Developmental and Comparative Immunology, Vol. 15, pp. 279-293, 1991; Corvallis, Oregon	<input type="checkbox"/>
	D H	PARTIDOS, CHARALAMBOS et al.; The Effect of Orientation of Epitopes on the Immunogenicity of Chimeric Synthetic Peptides*; Molecular Immunology, Vol. 29, No. 5, pp. 651-658, [1992]; Great Britain	<input type="checkbox"/>

Examiner  
Signature

Vanessa Ford

Date

Considered

02/13/03

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.